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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,671	01/03/2002	Norm Hendrickson	47225/DMC/V165	8282

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CHRISTIE, PARKER & HALE, LLP  
PO BOX 7068  
PASADENA, CA 91109-7068

EXAMINER
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WONG, LINDA

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/037,671

Applicant(s)

HENDRICKSON, NORM

Examiner

Linda Wong

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. Applicant's arguments, see Amendments to Claims and Applicant's Remarks, filed 9/2/2005, with respect to the rejection(s) of claim(s) 1-21 under Ozkan have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ozkan (US Patent No.: 5488641) in view of Fawcett et al (US Patent No.: 6320436).
2. The specifications and changes to the drawings submitted 9/2/2005 have been accepted. Objections to the specification and drawings are withdrawn.
3. Due to the cancellation of claim 18, the objection to claim 18 is withdrawn.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozkan (US Patent No.: 5488641) in view of Fawcett et al (US Patent No.: 6320436).
  - a. **Claim 8**, Ozkan discloses a phase generator generating a plurality of phase shifted versions of the clock signal (Fig. 2, label 205, 210), a reference loop comprising a phase comparator comparing two clock signals (Fig. 2, label 270)

and driving a selector (Fig. 2, label 280) to cause the selection from the delay line and inherently, indicates the clock period of the reference clock signal since the counter counts the number of clock periods (Fig. 2, UP/DW from label 240), thus the output of the counter (selection signal) would contain the clock periods of the clock signal. Ozkan also discloses a clock recovery loop comprising a phase comparator for comparing a phase-shifted clock signal with a data signal (Fig. 2, label 240), wherein the phase comparator drives a selector to select a phase-shifted version (Fig. 2, mux label 220) and a selector limiting the selection based on the data signal and reference selection signal (Fig. 2, input data signal and output from label 230). Although Ozkan discloses a phase comparator (Fig. 2, label 270), the disclosed comparator does not compare two delayed signals. Fawcett et al discloses a phase comparator (Fig. 2, label 31 and Col. 3, lines 38-40 and lines 44-49) comparing two phase-shifted versions of the clock signal. It would be obvious to one skilled in the art to change the phase comparator disclosed by Ozkan to receive a second delayed clock signal instead of a local clock signal to adjust the selection of the output signal.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 11-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Ozkan (US Patent No.: 5488641).

- a. **Claim 11**, Ozkan discloses a delay line delaying the reference clock signal, which would approximate the expected frequency of the clock signal (Fig. 2, labels 200, 210), determines the length of the delay line corresponding to the period (Fig. 2, labels 200 and 210, Abstract, lines 7-10 and Col. 4, lines 15-19), and comparing the recovered clock signal with a data signal (Fig. 2, label 240, input data signal and recovered clock signal) and the recovered clock signal corresponds to the period of the reference clock signal (Fig. 2, label recovered clock signal, and local clock signal in delay line 210), wherein Ozkan discloses the length of the delay line corresponds to the period of the reference clock signal (Fig. 2, label 200 and 210, Abstract, lines 7-10 and Col. 4, lines 15-19), comparing (Fig. 2, label 270) a variable clock signal (Fig. 2, output from label 280 to 270) with a fixed clock signal (Fig. 2, local clock signal inputted into label 270) until the variable and fixed clock signal have a zero phase difference. (Col. 4, lines 15-47)
- b. **Claim 12**, Ozkan discloses the delay units provides at least a 360 degree phase shift of the local or reference clock signal, thus indicating the length of the delay line is equivalent to at least 360 degrees or one clock cycle. Thus, Ozkan inherently discloses that the phase difference between the fixed and variable position indicates the length of the delay line as being one clock period of the reference clock. (Abstract, Fig. 2, labels 200,210,205, 270 and output from label 280)

- c. **Claim 13**, Ozkan inherently discloses that the recovered signal is limited by the fixed position to the variable position since the counter (Fig. 2, label 230) outputs a selected signal depending on the input from the counter (Fig. 2, label 290), which selects the output from the first mux (Fig. 2, label 280) and the control signals (Fig. 2, output from label 240)
- d. **Claim 14**, Ozkan discloses selecting a delayed version of the recovered clock signal from varying points of the delay line at a substantially constant rate, wherein the recovered clock signal is, inherently, offset in frequency or phase from the reference clock signal. (Col. 3, lines 40-67, and Col. 4, lines 1-15)
- e. **Claim 15**, Ozkan discloses determining a sampling clock signal using the recovered clock signal (Fig. 4, labels 470, recovered clock signal, and 410) and output to label 430) and a fraction of the difference between the fixed and variable position by using a counter. (Col. 6, lines 5-27 and Fig. 4)
- f. **Claim 16**, Ozkan discloses determining the difference between the fixed and variable position and inherently, discloses the difference can be a fraction and the fraction can be one-half. (Col. 6, lines 5-27 and Fig. 4)
- g. **Claim 17**, Ozkan uses a phase comparator to compare the recovered clock signal with a local clock signal to determine a sampling clock signal and inherently, discloses the comparison can be approximately 90 degrees. (Fig. 4)

### ***Conclusion***

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6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. Searles et al (US Patent No.: 5146121).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linda Wong



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**